National Institute of Environmental Health Sciences

Climate change and its impact on birch pollen quantities and the start of the pollen season an example from Switzerland for the period 1969-2006

Author(s): Frei T, Gassner E
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Abstract:

As published by the Intergovernmental Panel on Climate Change (IPCC) global warming is a reality and its impact is huge like the increase of extreme weather events, glacier recession, sea level rise and also effects on human health. Among them allergies to airborne pollen might increase or change in pattern due to the invasion of new allergic plants or due to different behavior of plants like earlier flowering. In this study we used the longest Swiss airborne pollen data set to examine the influence of the temperature increase on the time of flowering. In the case of Basel, where pollen data for 38 years are available, it was shown that due to a temperature increase the start of flowering in the case of birch occurred about 15 days earlier. Apart from a shift of the start of the flowering there is also a trend towards higher annual birch pollen quantities and an increase of the highest daily mean pollen concentrations. Due to global warming and because symptoms may appear earlier in the year people suffering from a pollen allergy might face a new unaccustomed situation.

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Resource Description

Exposure : ☑

weather or climate related pathway by which climate change affects health

Air Pollution

Air Pollution: Allergens, Interaction with Temperature

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : Sweden

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Respiratory Effect

Respiratory Effect: Upper Respiratory Allergy

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified